# *Final Draft*
# SEPA Mitigation Strategies for Climate Change Impacts

| **Project Actions** *Site Design* | **Comments** | **Emissions Category** | | | **Possible Qualitative Assessment** |
|---|---|---|---|---|---|
| | | **Direct** [1] | **Indirect**[2] | **Trans-portation** [3] | |
| Encourage infill, redevelopment, and higher density development, whether in incorporated or unincorporated settings. | Minimizes sprawl and reduces **direct and indirect VMT** and encourages a pedestrian built environment and high density is more energy efficient per capita. | ● | ● | ● | |
| Provide permanent protection and restoration for open space/natural areas on the project site. | Reduces (**indirectly) vegetation disturbance emissions** and maintains carbon sink, avoids future built environment projects and subsequent energy consumption patterns. | | ● | | ● |
| Plant trees and vegetation near structures to shade buildings and | Reduces **onsite fuel combustion emissions** and **purchased electricity** plus enhances carbon sinks. | ● | ● | | ● |
| Preserve or replace onsite vegetation (that is removed for construction) as a means of providing carbon storage. | Reduces direct carbon emissions and loss of carbon sink from **vegetation disturbance** | ● | | | ● |
| Minimize building footprint. | Reduces **onsite fuel combustion emissions** and **purchased electricity** consumption, **materials used, maintenance, land disturbance, and direct construction emissions.** | ● | ● | | ● |
| Design project to support alternative transportation to site including transit, walking, and bicycling. | Reduces **VMT** and **direct and indirect emissions** from reduced parking facilities. | | ● | ● | ● |

[1] Direct emissions include emissions generated onsite that the proponent of the action has direct control over. Examples include stationary combustion, physical and chemical processes other than fuel combustion, and fugitive sources of emissions (i.e., emissions that do not pass through a stack, chimney, exhaust pipe, or similar opening).
[2] Indirect emissions include those generated offsite and for which the proponent does not have direct control over. Examples include emissions associated with purchased or acquired electricity, embodied emissions, and emissions associated with extraction of materials and fuels.
[3] Transportation emissions can be either direct (i.e., within the control of the proponent) or indirect (i.e., outside of the proponent's direct control). Transportation emissions are called out as a separate category because they constitute a sizable proportion of Washington's overall GHG emissions and because the tools for measuring transportation emissions typically vary from the tools for measuring other kinds of emissions.

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| Use low impact development for stormwater design. | Improves hydrological functions and reduces **purchased energy** use for runoff management. Can reduce project footprint and minimize **vegetation disturbance.** | • | • | | • |
| Design water efficient landscaping. | Minimizes **water consumption, purchased energy,** and upstream emissions from water management. | | • | | |
| Minimize energy use through building orientation. | Reduces **onsite fuel combustion emissions** and **purchased electricity** consumption | • | • | | |

| **Project Actions** ***Building Design and Operations*** | **Comments** | **Direct** | **Indirect** | **Trans-portation** | **Qualitative Assessment** |
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| Apply LEED (Leadership in Energy and Environmental Design) standards (or equivalent) for design and operations | Reduces **onsite fuel combustion emissions** and off-site/indirect **purchased electricity**, **water use, waste disposal** | • | • | | • |
| Purchase Energy Star equipment and appliances for public agency use. | Reduces **onsite fuel combustion emissions** and **purchased electricity** consumption | • | • | | • |
| Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options. | Reduces **onsite fuel combustion emissions** and **purchased electricity** consumption. | • | • | | • |
| Replace traffic lights, street lights, and other electrical uses to energy efficient bulbs and appliances. | Reduces **purchased electricity**. | | • | | |
| Construct "green roofs" and use high-albedo roofing materials. | Reduces **onsite fuel combustion emissions** and **purchased electricity** consumption | • | • | | • |
| Install high-efficiency HVAC systems. | Minimizes **fuel combustion and purchased electricity** consumption. | • | • | | • |
| Eliminate or reduce use of refrigerants in HVAC systems. | Reduces **fugitive emissions**. Compare refrigerant usage before / after to determine GHG reduction. | • | | | • |
| Reduce energy demand using peak shaving or load shifting strategies. | Reduces **purchased electricity**. | | • | | • |
| Maximize interior day lighting through floor plates, increased building perimeter and use of skylights, celestories and light wells. | Increases natural/day lighting initiatives and reduces **purchased electrical energy** consumption. | | • | | • |

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| Incorporate energy efficiency technology such as:<br>super insulation<br>motion sensors for lighting and climate control<br>efficient, directed exterior lighting<br>on-site renewable energy sources into project including solar, wind, geothermal, low-impact hydro, biomass, and bio-gas strategies<br>combined heat and power (CHP) technologies | Reduces **fuel combustion and purchased electricity** consumption. | • | • | | |
| Use water conserving fixtures that exceed building code requirements. | Reduces **water consumption**. | | • | | |
| Re-use gray water and/or collect and re-use rainwater. | Reduces **water consumption**. | | • | | |
| Provide for storage and collection of recyclables (including food, paper, corrugated cardboard, glass, plastic, and metals) in building design. | Reduces **solid waste disposal** and promotes material re-use which reduces **extraction of purchased materials** and some **transportation of purchased materials.** | | • | • | • |
| Use recycled building materials and products. | Reduces **extraction of purchased materials,** possibly **reduces transportation of materials,** encourages recycling and reduction of **solid waste disposal**. | | • | • | • |
| Use building materials that are extracted and/or manufactured within the region. | Reduces **transportation of purchased materials** | | | • | |
| Use rapidly renewable building materials. | Reduces emissions from **extraction of purchased materials** | | • | | • |
| Use wood products from sources certified in accordance with the Forestry Stewardship Council's Principles and Criteria. | Reduces emissions from **forest conversion**, **extraction of purchased materials** and **processing of purchased materials.** | • | • | | • |
| Use low-VOC adhesives, sealants, paints, carpets, and wood. | Reduces **fugitive emissions** and indirect emissions from **extraction and processing of purchased materials, and from solid waste disposal.** | • | • | | • |
| Conduct 3rd party building commissioning to ensure energy performance. | Reduces **fuel combustion and purchased electricity** consumption. | • | • | | • |
| Track energy performance of building and develop strategy to maintain efficiency. | Reduces **fuel combustion and purchased electricity** consumption. | • | • | | • |

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| Provide construction and design guidelines to facilitate sustainable design for build-out by tenants. | Reduces **fuel combustion and purchased electricity** consumption. Reduces emissions from indirect sources such as **extraction of purchased materials, processing, transportation of materials, solid waste disposal, and water use** | • | • | | • |
| **Project and Non-Project** ***Transportation*** | **Comments** | **Direct** | **Indirect** | **Trans-portation** | **Qualitative Assessment** |
| Locate new buildings in or near areas designated for transit-oriented development (TOD) and, where possible, incorporate TOD principles in employee and customer activity patterns. | Reduces **direct and indirect VMT** | | | • | |
| Purchase low-carbon fuel and/or fuel efficient vehicles for fleet. | Reduces direct emissions from transportation sources | | | • | |
| Support the use of low/zero carbon fueled vehicles, such as the charging of electric vehicles from green electricity sources. | Reduces direct and indirect emissions from transportation sources | | • | • | |
| Join or form a transportation management association. | Reduces direct and indirect **VMT**. | | | • | • |
| Provide new transit service or support extension/expansion of existing transit (buses, trains, shuttles, water transportation). | Reduces direct and indirect **VMT** | | | • | • |
| Support expansion of parking at Park-n-Ride lots and/or transit stations. | Reduces direct and indirect **VMT** | | | • | • |
| Develop or support multi-use paths to and through site. | Reduces direct and indirect **VMT** | | | • | • |
| Size parking capacity to not exceed local parking requirements and, where possible, seek reductions in parking supply through special permits or waivers. | Reduced parking discourages auto dependent travel, encouraging alternative modes such as transit, walking, biking etc. Reduces direct and indirect **VMT** | | | • | • |
| Develop and implement a marketing/information program that includes posting and distribution of ridesharing/transit information. | Reduces direct and indirect **VMT** | | | • | • |

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| Subsidize transit passes. Reduce employee trips during peak periods through alternative work schedules, telecommuting, and/or flex-time. Provide a guaranteed ride home program. | Reduces employee **VMT** | | | • | • |
| Provide on-site amenities such as banks, dry cleaning, food service, childcare. | Reduces direct and indirect VMT | | | • | • |
| Provide bicycle storage and showers/changing rooms. | Reduces employee **VMT** | | | • | |

| **Non-Project Actions** ***Transportation and Energy Efficiency*** | **Comments** | **Direct** | **Indirect** | **Trans-portation** | **Qualitative Assessment** |
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| Traffic signalization and coordination to improve traffic flow and support pedestrian and bicycle safety. | Reduces transportation emissions and **VMT** | • | | • | |
| Plan for cluster multimodal transportation oriented development and redevelopment to integrate high density housing, civic, and retail amenities (jobs, schools, parks, shopping opportunities) to help reduce VMT. | Reduces direct and indirect **VMT** | | | • | • |
| Apply advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods, and services. | Reduces emissions from transportation by minimizing idling and maximizing transportation routes / systems for fuel efficiency. | | | • | |
| Implement street improvements that are designed to relieve pressure on a region's most congested roadways and intersections. | Congestion relief reduces fuel consumption which may be considred direct emissions or indirect option 3 if not under the control of the project. | | | • | • |
| Limit idling time for commercial vehicles, including delivery and construction vehicles. | Reduces transportation emissions | | | • | • |

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| Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes. | Reduces idling fuel emissions and direct and indirect VMT | | | • | • |
| Create a business or community-based online ridesharing program. | Reduces direct and indirect **VMT** | | | • | • |
| Public leveraging/encouraging of large businesses to develop commute trip reduction plans. | Reduces direct **VMT** | | | • | • |
| Develop a *Safe Routes to School* program that allows and promotes bicycling and walking to school. | Minimizes diesel emissions, and school district's **VMT** | | | • | • |
| Recognize and promote energy saving measures beyond Title 24 requirements for residential and commercial projects | Reduces **fuel combustion and purchased electricity** consumption | • | • | | |
| Educate the public, schools, other jurisdictions, professional associations, business, and industry about reducing GHG emissions. | Reduces direct and indirect emissions | • | • | | • |
| Retrofit public buildings using an Energy Savings Performance Contract with a private entity to. This type of contract allows the private entity to fund all energy improvements in exchange for a share of the energy savings over a period of time. | Reduces **fuel combustion and purchased electricity** consumption | • | • | | • |
| Design, build, and operate schools that meet the Collaborative for High Performance Schools (CHPS) best practices. | Reduces **fuel combustion and purchased electricity** consumption | • | • | | |
| Retrofit municipal water and wastewater systems with energy efficient motors, pumps and other equipment, and recover wastewater treatment methane for energy production. | Reduces **fuel combustion and purchased electricity** consumption | • | • | | |
| Convert landfill gas into energy sources for use in fueling vehicles, operating equipment, and heating buildings. | Reduces **fuel combustion and purchased electricity** consumption | | | • | • |

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| Purchase low-carbon fuel government vehicles and buses Promote the use of these vehicles in the general community. | Reduces emissions from transportation | | | • | • |
| Offer government incentives to private businesses for developing buildings with energy and water efficient features and recycled materials. The incentives can include expedited plan checks and reduced permit fees. | Reduces direct and indirect emissions | • | • | | • |
| Offer rebates and low-interest loans to residents that make energy-saving improvements on their homes. | Reduces direct and indirect emissions | • | • | | • |
| Create incentives to increase recycling and reduce generation of solid waste by residential users. | Reduces emissions from **solid waste disposal** | | | • | • |
| Implement a Construction and Demolition Waste Recycling Ordinance to reduce the solid waste created by new development. | Reduces direct and indirect emissions | • | • | • | • |
| Add residential/commercial food waste collection to existing greenwaste collection programs. | Reduces solid waste disposal | | • | | • |
| Offer government employees financial incentives to carpool, use public transportation, or use other modes of travel for daily commutes. | Reduces direct **VMT** | | | • | • |